



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|------------------------|---------------------|------------------|
| 10/810,186 | 03/26/2004 | Rajendra Tushar Moorti | 15624US02 | 8020 |
| 23446 7590 12/03/2008 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661 | | | | |
| EXAMINER | | | | |
| YUN, EUGENE | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2618 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 12/03/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/810,186

Applicant(s)

MOORTI ET AL.

Examiner

EUGENE YUN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 10-14, 22-26 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonta et al. (US 5,740,526) in view of Anderson (US 7,324,783).

Referring to Claim 1, Bonta teaches a method for choosing at least one signal path, the method comprising:

Determining a signal quality metric for each of a plurality of signal paths (see col. 2, lines 53-57); and

Selecting at least one of said plurality of signal paths for receiving a signal, wherein said selecting is based on the at least one of the signal quality metric (see col. 2, line 62 to col. 3, line 4).

Bonta does not teach modifying the determined signal quality metric for a signal path. Anderson teaches modifying the determined signal quality metric for a signal path (see col. 7, lines 29-46 noting that this process can be applied to all antenna elements of Bonta). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Anderson to said device of

Bonta in order to provide a more accurate method of measuring signal quality in order to ensure the best quality signal.

Claim 13 has similar limitations as claim 1.

Referring to Claim 25, Bonta teaches a system for choosing at least one signal path, the system comprising:

At least one processor that determines a signal quality metric for each of a plurality of signal paths (see col. 2, lines 53-57); and

The at least one processor enables selecting of at least one of said plurality of signal paths for receiving a signal, wherein said selecting is based on the at least one of the modified signal quality metrics (see col. 2, line 62 to col. 3, line 4).

Bonta does not teach modifying the determined signal quality metric for a signal path. Anderson teaches modifying the determined signal quality metric for a signal path (see col. 7, lines 29-46 noting that this process can be applied to all antenna elements of Bonta). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Anderson to said device of Bonta in order to provide a more accurate method of measuring signal quality in order to ensure the best quality signal.

Referring to Claims 2, 14, and 26, Bonta also teaches cycling through at least one of the signal paths (see col. 3, lines 28-35 noting the cycling through antennas 101-106).

Referring to Claims 10, 22, and 34, Bonta also teaches one or more of a power level characteristic, a packet error rate characteristic, a bit error rate characteristic, a

propagation channel characteristic, and/or an interference level characteristic (see col. 4, lines 5-9).

Referring to Claims 11, 23, and 35, Bonta also teaches at least one of the plurality of signal paths comprising an antenna (see antennas in 101-106 in fig. 1).

Referring to Claims 12, 24, and 36, Anderson also teaches a receive signal path and a transmit signal path (see two way path 620 in fig. 6).

3. Claims 3-9, 15-21, and 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonta and Anderson and further in view of Hiben et al. (US 5,465,410).

Referring to Claims 3, 15, and 27, the combination of Bonta and Anderson does not teach biasing the signal quality metric for each of the signal paths. Hiben also teaches biasing the signal quality metric for each of the signal paths (see col. 3, lines 62-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Hiben to the modified device of Bonta and Anderson in order to provide a more efficient method of selecting the best quality signal.

Referring to Claims 4, 16, and 28, Hiben also teaches increasing the signal quality metric for each of the plurality of signal paths by a fixed amount (see col. 3, lines 62-67).

Referring to Claims 5, 17, and 29, Hiben also teaches increasing the signal quality metric for each of the plurality of signal paths by a predetermined amount (see col. 3, lines 62-67).

Referring to Claims 6, 18, and 30, Hiben also teaches dynamically changing the signal quality metric for each of the plurality of signal paths (see col. 2, lines 42-47).

Referring to Claims 7, 19, and 31, Hiben also teaches decreasing the signal quality metric for each of the plurality of signal paths by at least one of a fixed amount and a predetermined amount (see col. 3, lines 62-67).

Referring to Claims 8, 20, and 32, Hiben also teaches selecting a signal path with a signal quality metric greater than at least one modified signal quality metric (see col. 4, lines 3-8).

Referring to Claims 9, 21, and 33, Hiben also teaches selecting a signal path with a signal quality metric less than at least one modified signal quality metric (see col. 4, lines 3-8).

Response to Arguments

4. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENE YUN whose telephone number is (571)272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571)272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eugene Yun
Examiner
Art Unit 2618

/Eugene Yun/
Examiner, Art Unit 2618
/E. Y./
Examiner, Art Unit 2618